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A FEW NOTEWORTHY PLANTS FROM FALMOUTH, MASSACHUSETTS

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FROM 1923 to 1928, inclusive, the writer spent all or a part of each summer at the Marine Biological Laboratory at Woods Hole, Barnstable County, Massachusetts. During these six years, considerable attention was paid to the vascular flora of the region and many collecting trips were made not only to the adjacent islands but to various localities in Falmouth, Mashpee, Sandwich, and Bourne.

As invariably happens when such a study is made (and this is apparently as true of a carefully worked region as of one which has been little visited by botanists), new stations have been discovered for several interesting species and significant extensions in ranges have been made for others. A few of these observations are here recorded with the hope that they may contribute toward a clearer understanding of the problems of plant distribution as exhibited in southeastern New England.

The western portion of Cape Cod, which includes the four townships mentioned above, is found to differ botanically as well as geologically and topographically from the rest of Barnstable County. This "Upper Cape," as it is often referred to, is made up of a line of morainal hills which extends, in a general north and south direction, from Woods Hole to the Cape Cod Canal. These hills are, for the most part, heavily wooded and present an appearance which is in rather marked contrast to the low, sandy, treeless reaches of that portion of Cape Cod lying to the east. That this Upper Cape supports a flora which likewise differs from that of the areas eastward is borne out by a detailed examination of the characteristic herbaceous plants

of the region, as well as by the superficial aspect of the trees and shrubs. The prevailing tone of the flora of the central portion of Cape Cod is that of the southern coastal plain (a fact clearly established by the discerning work of Professor M. L. Fernald) whereas the geographic relations of most of the plants from the region under present consideration are rather with a widely distributed continental flora. The various factors underlying this differential distribution have been made the subject of investigation by the writer and the conclusions to which a study of the glacial history of the area have led him are summarized in a report which awaits immediate publication in *Rhodora*.

The continental affinities of the flora of the Upper Cape have been long suspected by Fernald and are demonstrated by his own field observations as well as those of his associates. Dr. H. K. Svenson, for example, has noted the occurrence in Sandwich of such species as *Polypodium virginianum*, *Polystichum achrostichoides*, *Thelypteris Phegopteris*, *Lycopodium clavatum* and *L. lucidulum*.¹ In the same paper *Najas guadalupensis* and *Aster nemoralis* are reported from Falmouth. These are all plants which are rare or absent elsewhere in Barnstable County and which are more representative of the richer soils of the mainland proper. Many of the finds herein recorded are of a similar nature and merit interest mainly as further illustrations of the relationship just indicated.

The following records are substantiated by specimens collected by the writer and deposited either in the herbarium of the New England Botanical Club, Cambridge, Mass., or at the University of Pennsylvania, Philadelphia, Pa. Duplicates of a few have been distributed to the Missouri Botanical Garden, St. Louis, Mo., the herbarium of Cornell University, Ithaca, N. Y., or the Marine Biological Laboratory, Woods Hole, Mass.

ALISMA PLANTAGO-AQUATICA L., var. PARVIFLORUM (Pursh) Farwell. See Rept. Comm. Parks & Boulev., Detroit, xi. 44 (1900). This is apparently a rare plant in southeastern Massachusetts. Material in the herbarium of the New England Botanical Club shows it from New Bedford, Bristol County, where it was collected by E. W. Hervey, but it appears to be unknown elsewhere in this part of the state. In 1924 the writer came upon the plant growing in a springy hollow in the woods east of the Eel Pond at Woods Hole.

¹ Svenson. RHODORA, xxx. 135 (1928).

This material had small fruiting heads (3–4 mm. in diam.) and small achenes (less than 2 mm. long) and seems best referred to the variety *parviflorum* as at present understood.

ELODEA OCCIDENTALIS (Pursh) St. John. See Rhodora, xxii. 17 (1920). This is not a common plant on Cape Cod, having been collected previously only from Harwich and Brewster. It is abundant in Fresh Pond, Falmouth, where it has been observed in late summer piled up in windrows along the cobbly border of the pond.

PANICUM LATIFOLIUM L. A species characteristic of the somewhat better soils of the central and western portions of the state and here for the first time reported from Barnstable County. Specimens in the Gray Herbarium and New England Botanical Club show it to be occasional in Plymouth and Bristol Counties but it seems not to have been found before on Cape Cod. It was collected by Professor Fernald and the writer in the rocky woods west of Falmouth, a region which harbors several other of these representatives of a more continental flora.

GLYCERIA ACUTIFLORA Torr. This grass seems never before to have been reported from Barnstable County. It has been collected on Nantucket and Martha's Vineyard and the writer has long been familiar with it on the Elizabeth Islands where it is abundant in many of the small pond holes. It is now recorded from Falmouth, where it is known to occur in several boggy hollows west of the railroad station.

G. GRANDIS Wats. Another grass which enjoys, in general, a more northerly distribution. It has been collected at Brewster and is also known on the basis of a specimen of A. H. Moore's from Woods Hole. The present station is a moist grassy hollow in the woods north of Woods Hole, where this grass and *Carex tribuloides* form an almost solid growth.

CYPERUS FERAX Rich. Not a common sedge in this portion of the state. It seems to prefer brackish meadows and, although such situations abound in Barnstable County, this species appears to have been collected at only one locality. Some years ago Professor Fernald discovered it growing along the brackish shores north of Gunning Point, Falmouth, and on August 9, 1927, he and the writer visited the same station and again found the plant, in company with *Hierochloa odorata*, var. *fragrans*, *Rumex maritimus*, var. *fueginus* and *Galium trifidum*.

SCIRPUS DEBILIS Pursh. This species is fairly common in eastern Massachusetts, where it is known from many stations in Middlesex and Norfolk Counties. Its only recorded occurrence in the extreme southeastern portion, however, seems to have been from Martha's Vineyard where we know it from Tisbury on the basis of collections made by Cushman and by Seymour. It is here reported from Weeks Pond in Falmouth, at present its sole locality in Barnstable County.

CAREX TRIBULOIDES Wahlenb. Collected in a wet, grassy hollow north of Woods Hole, with *Glyceria grandis*, as noted above. This is another sedge of the better soils inland and therefore rare or lacking on the sands and gravels of southeastern Massachusetts. In the New England Botanical Club there is a specimen of Hervey's collecting from New Bedford, but otherwise the plant is unknown in the state south of Norfolk County.

SPIRODELA POLYRHIZA (L.) Schleid. The only record of this species from the southeastern part of the state in either the Gray Herbarium or the New England Botanical Club is a collection made at Lakeville, Plymouth County. However, in the herbarium of the Boston Society of Natural History there is a sheet collected by Cushman in 1912 labelled merely "Falmouth." The plant has long been known to the writer as growing rather abundantly in Oyster Pond, which lies about halfway between Woods Hole and Falmouth. There is evidence that this pond suffers occasional inundations from the waters of Vineyard Sound, an observation which is borne out by the occurrence around its shores of tangled filaments of the green alga *Enteromorpha* as well as the presence of *Potamogeton bupleuroides*, a frequent indicator of brackish conditions.

JUNCUS BALTICUS Willd., var. *LITTORALIS* Engelm. This interesting rush, which ranges from Labrador and Newfoundland south to Lancaster County, Pennsylvania, and westward across the continent to the Rocky Mountains, is known in Massachusetts only from the eastern portion of the state. On Cape Cod it has been collected only at Provincetown, Barnstable and Sandwich and it therefore seems permissible to report it from a fourth station in Barnstable County. The plant forms an almost solid growth around the north side of a small pond west of Oyster Pond, associated with *Scirpus Olneyi*.

J. BREVICAUDATUS (Engelm.) Fernald. A species which is far from common in southeastern Massachusetts. Its only other station in Barnstable County seems to be at Brewster. We now know it

from a quagmire bog east of Long Pond, Falmouth, where it was collected by the writer in mature fruiting condition on August 21, 1928.

RUMEX MARITIMUS L., var. *FUEGINUS* (Phil.) Dusén. See St. John, *RHODORA*, xvii. 73 (1915). This species has been collected on Nantucket, Martha's Vineyard and the Elizabeth Islands, but the only indication of its occurrence in Barnstable County has been a specimen in the herbarium at Yale University collected by W. G. Farlow and labelled "Falmouth." As already noted, Professor Fernald and the writer came upon the plant in brackish marshes north of Gunning Point, Falmouth.

CERATOPHYLLUM DEMERSUM L. A search through the material in the Gray Herbarium fails to show this plant from southeastern Massachusetts, but in the collections of the New England Botanical Club there are specimens from New Bedford, Chatham and Eastham. In Oyster Pond (the same locality from which *Spirodela* is noted above) this species has for several consecutive seasons been observed by the writer. Contrary to the usual custom of the species, the Oyster Pond material has occasionally been found in a fruiting condition.

ANEMONE VIRGINIANA L. This plant is of only occasional occurrence in southeastern Massachusetts, enjoying rather an Alleghenian distribution. Material in the Gray Herbarium and the New England Botanical Club demonstrates its presence at Barnstable and Centreville and in the collections of the Boston Society of Natural History there are two sheets from Woods Hole. It was discovered by Professor Fernald and the writer growing in the sandy woods near Gunning Point, Falmouth.

THALICTRUM REVOLUTUM DC. Like the preceding, this species belongs rather to the upland wooded areas than to the lighter soils of the Cape Cod region. It has previously been collected at Sandwich and Centreville and is now reported from Falmouth, where it has been found at several localities in the rocky woods north of Woods Hole.

AKEBIA QUINATA Dcne. An ornamental climber, belonging to the Lardizabalaceae, which occurs occasionally as an escape. The only other New England record for this plant, as shown by material in the Gray Herbarium, is from Sandwich, where it was collected by Professor Fernald in 1922. It has been known to the writer since 1923,

when it was first discovered trailing over the stonework of a bridge along the railroad a short distance northeast of Woods Hole.

ADLUMIA FUNGOSA (L.) Greene. Sparingly escaped from cultivation in New England and here reported, apparently for the first time from southeastern Massachusetts, from an open field northeast of the village of Falmouth.

RADICULA SYLVESTRIS (L.) Druce. Records for this plant from Cape Cod seem to be totally lacking. In fact, the writer has seen no material to indicate that it occurs in Massachusetts southeast of Norfolk County. It is here reported from Woods Hole, where it was found growing along a road running through the oak woods north of the Laboratory.

RUBUS ALLEGHENIENSIS Porter. Although this species has twice been collected on Martha's Vineyard, there have been no previous records to account for its occurrence elsewhere southeast of Plymouth and Bristol Counties. It is another of those plants the geographical relations of which are much more with a continental than a coastal plain flora, and yet which recent researches have shown to belong to the vegetation of the western portion of the Cape. It occurs in the sandy woods north of Woods Hole and west of Falmouth.

BAPTISIA BRACTEATA (Muhl.) Ell. The discovery of this interesting plant in the Falmouth region was first reported by Dr. W. R. Taylor in 1921.¹ It was found growing in the dry, sandy soil along the railroad about one mile northeast of Woods Hole in company with *B. tinctoria* and many other species of the dry pine and oak woods. That its occurrence here is due to the proximity of the railroad seems obvious, for the species is a southern and western one, the present locality constituting its only known station north of South Carolina or east of Indiana. The colony, a small one when first reported, appears to have increased in size during recent years and, if not further molested by those who seek to transplant this attractive species to their own gardens, seems destined to persist.

CELASTRUS SCANDENS L. The Climbing Bittersweet is certainly not a common plant in southeastern Massachusetts. It was collected by Professor Fernald from Falmouth in 1919 and has twice been found at Chilmark, Martha's Vineyard. These stations, with the addition of that here reported, appear to represent the known distribution of this species in the state south of Norfolk County. The

¹ *Rhodora*, xxii. 255 (1921).

present locality is a deep hollow in the woods just north of Woods Hole, where the plant forms a dense tangle over the vegetation bordering a small pond.

MALVA ALCEA L. This handsome species, which occurs occasionally as an escape from cultivation, is well established along the upper border of the beach near the lighthouse at Nobska Point, east of Woods Hole.

LYTHRUM SALICARIA L. The Spiked Loosestrife has been collected from half a dozen localities in Massachusetts, most of them in the central and western portions of the state. It is here recorded from Falmouth, where it has become established along the grassy eastern border of Salt Pond.

COELOPLEURUM LUCIDUM (L.) Fernald. *C. actaeifolium* of Gray's Manual. See *RHODORA*, xxi. 146 (1919). This essentially northern species has been known in southeastern Massachusetts from two localities, to which may now be added a third and a fourth. The plant was reported¹ in 1840 from Scituate, Plymouth County, and Fernald and Weatherby found it at Falmouth. To the writer it has long been known as growing rather abundantly along the exposed gravelly shores north of Woods Hole, a section known locally as Ganset. It has also been collected from Cuttyhunk, one of the Elizabeth Islands (Dukes County).

THYMUS SERPYLLUM L. Creeping Thyme has been introduced on the golf course at Woods Hole and has become established on nearby roadside banks. This appears to be the first record of the plant from Barnstable County.

PENSTEMON LAEVIGATUS Ait., var. *DIGITALIS* (Sweet) Gray. This species, here reported for the first time from southeastern Massachusetts, was collected along the railroad northeast of Woods Hole, growing not far from the *Baptisia bracteata*. Like the *Baptisia*, it presumably owes its occurrence there to the presence of the railroad.

VIBURNUM ACERIFOLIUM L. This is another of those plants characteristic of the better soils inland and only sparingly, if at all, represented on Cape Cod. It is known from the Sandwich and Falmouth regions, being of fairly frequent occurrence in the woods around Woods Hole.

SICYOS ANGULATUS L. There is no material in either the Gray Herbarium or the collection of the New England Botanical Club to

¹ Bigelow, Fl. Bost. ed. 3: 118 (1840).

indicate that the One-seeded Bur Cucumber has ever been found growing in Barnstable County. This may, however, be merely another case of a common plant consistently neglected by collectors. The species grows profusely in a wet thicket north of the Mill Pond at Woods Hole.

HIERACIUM PILOSELLA L. This little Hawkweed, which is such an obnoxious pest in certain regions northward, is fortunately of only casual occurrence in Massachusetts. In Barnstable County it has been collected previously only at Centreville. The present station is a grassy bank along the roadside near Oyster Pond, about two miles northeast of Woods Hole. Observations covering a period of five years show that the plant is not spreading and lead to the conclusion that it is here unlikely to become a dangerous weed.

UNIVERSITY OF PENNSYLVANIA.

A NEW LESQUERELLA FROM WESTERN TEXAS.—**LESQUERELLA lepidota**, sp. nov. Perennial or biennial from a rather slender, woody root; stems slender, clustered, ascending, 4–10 cm. high, sparsely leafy, densely lepidote-stellate; basal leaves oblanceolate, obtuse, up to 7 cm. long and 13 mm. wide, long-petioled, entire or frequently repand, lepidote-stellate on both surfaces; cauline leaves up to 2 cm. long and 5 mm. wide, entire, obtuse, narrowed into a slender petiole, lepidote-stellate on both surfaces; racemes up to 3 cm. long, many-flowered, dense; pedicels about 10 mm. long, ascending, stout; petals bright yellow, obovate, clawed, 6 or 7 mm. long; sepals oblong, 4 mm. long, densely lepidote-stellate; capsules longer than broad, 6 or 7 mm. long and 5 mm. broad, rounded at the summit, lepidote-stellate, shortly stipitate; style much shorter than the capsule, slender, up to 3 mm. long; seeds 5–12 in each capsule, flattened, orbicular, about 1.5 mm. in diameter.

Collections were made May 28, 1928, in the Sierra Diablo on a ridge just above Victoria Canyon at about twenty miles north of Allamore, Hudspeth County, TEXAS. The TYPE specimen, No. 1588, is deposited in the herbarium of the Texas Agricultural College at College Station, Texas. Co-type specimen, No. 1587, is deposited in the Gray Herbarium.

This species differs from *L. montana* (Gray) Watson in having the capsule rounded at the apex and likewise in having the cauline leaves rounded at the apex. It differs from both *L. lata* Wooton & Standley and *L. rectipes* Wooton & Standley in having a much longer capsule and a style not surpassing the capsule. This species is clearly distinct.—V. L. CORY, *Grazing Research Botanist*, TEXAS AGRICULTURAL EXPERIMENT STATION.